



Dart Hawkesbury  
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200  
Fax 613 632-5246

Print

## Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name	
PO041320	MES002-VC	1	1 Net 60	M17-4-H900-R2.250	Bar 2.250 Dia : MATERIAL: 17-4 PH CONDITION H900 MATERIAL: 17.4 PH / S I7400 / TYPE 630 SS ROUND BAR GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD STRENGTH PER TABLE MINIMUM ULTIMATE STRENGTH PER TABLE SPECIFICATION: AMS 5643 OR ASTM A564 H900 MIN. YIELD TENSILE 170 KSI / MIN. ULTIMATE TENSILE 190 KSI	17-4 SS Round Bar 2.250 Dia : MATERIAL: 17-4 PH CONDITION H900 MATERIAL: 17.4 PH / S I7400 / TYPE 630 SS ROUND BAR GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD STRENGTH PER TABLE MINIMUM ULTIMATE STRENGTH PER TABLE SPECIFICATION: AMS 5643 OR ASTM A564 H900 MIN. YIELD TENSILE 170 KSI / MIN. ULTIMATE TENSILE 190 KSI				12	10/29/2018	12		S124008	Stock	10/31/2018	\$ 138.35 / ft		1	\$1,707.24	Metaux Solutions

Plex 11/1/2018 4:51 PM dart.Tollis.Andrew



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO041320

E-MAILED

OCT 11 2018

<b>Supplier:</b>	MES002-VC Metaux Solutions 2625 boul Jacques-Cartier Est Longueuil QC J4N 1L7 Canada Phone: 800 558 8858 Fax: 514 633 8044	<b>PO No:</b> PO041320 <b>PO Date:</b> 10/11/18 <b>Due Date:</b> 10/29/18 <b>Purchase Order Revision:</b> <b>Revision Date:</b> <b>Ship-To Contact:</b> Lavoie, Chantal Phone: clavoie@dartaero.com
<b>Ship To:</b>	1270 Aberdeen Street Hawkesbury ON K6A 1K7 Canada Phone: 613-632-5200	<b>Via:</b> Ground <b>Pymt Terms:</b> Net 60 <b>Freight Terms:</b> <b>Special Comments:</b> bid 29359

## Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		M17-4-H900-R2.250		17-4 SS Round Bar 2.250 Dia. : MATERIAL: 17-4 PH CONDITION H900  MATERIAL: 17-4 PH / S I7400 / TYPE 630 SS ROUND BAR GRAIN MUST BE ALONG LENGTH OF BAR MINIMUM YIELD STRENGTH PER TABLE MINIMUM ULTIMATE STRENGTH PER TABLE SPECIFICATION: AMS 5643 OR ASTM A564  H900 MIN. YIELD TENSILE 170 KSI / MIN. ULTIMATE TENSILE 190 KSI	Firmed	-	10/29/18	12 ft	0 ft ✓ 12.34	12 ft	\$138.35/ft	\$1,660.20 AT 18/11/61

Grand Total: \$1,660.20

CL  
OJ



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

**PURCHASE ORDER  
PO041320**

**Order Notes**

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 10/11/18 11:30 AM dart.lavoie.chantal

Bid

03/10/2018

29359

METAUX SOLUTIONS INC  
 2625 BOUL JACQUES CARTIER EST  
 LONGUEUIL, QUEBEC  
 J4N 1L7      Tel. : 450 641-3330

*Sales Rep.* : JEROME PRIMEAU  
*Reference* : chantal  
*Expiration Date* : 01/01/2019

*Customer:* 6323336*Ship To :*

DART AEROSPACE LTD  
 1270, ABERDEEN STREET  
 HAWKESBURY, ONTARIO  
 K6A 1K7

Same

Tel.: 1 613 632-3336

<i>Item No.</i>	<i>Description</i>	<i>Qty</i>	<i>Price</i>	<i>Total</i>	<i>Tx</i>
MR21441H	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N				
	4140 HTSR ROU 2.250 DIA 1 x 72" ht;	6	51.30	307.80	A
MR341H	4140 HTSR ROU 3.000 DIA 1 x 48"	4	61.50	246.00	A
MR3141H	4140 HTSR ROU 3.250 DIA 1 x 48"	4	102.25	409.00	A
MR541H	ht; 4140 HTSR ROU 5.000 DIA 1 x 48"	4	174.50	698.00	A
SR214174	STAIN ROND 2.250" X 17-4-PH cond. h900 1 x 12' r/l	12	138.35	1 660.20	A
SR112174	ht; 17-4PH ROU 1.500 DIA cond. 1 x 12' r/l	12	62.75	753.00	A
SF122124	304 FLA .500 X 2.500 1 x 12' r/l	12	29.90	358.80	A
ASQ114	ht; ALU SQU 1.250 0061-T6 1 x 12'	12	8.75	105.00	A
AF112	ht; ALU FLA 1.000 X 12.00 6061-T6	12	69.40	832.80	A

\*\*\* Continued on Next Page \*\*\*

Bid

03/10/2018

29359

METAUX SOLUTIONS INC  
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LONGUEUIL, QUEBEC  
J4N 1L7              Tel. : 450 641-3330

Sales Rep. : JEROME PRIMEAU  
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Ship To :

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Price	Total	Tx
	1 x 12'				
	ht;				
AP3875	ALU PLATE .375" 7075-T6 4 x 6.00" x 72.00" offer 72.00" lg cut in plate ht:	4	297.00	1 188.00	A
	10/12 jours 17-4 2.25" dia. le reste 5/7 jours				

A) Regist :

COPY              Subtotal              6 558.60

HST :              852.62

Total :              7 411.22

Shipping Order      29/10/2018

METAUX SOLUTIONS INC  
2625 BOUL JACQUES CARTIER EST  
LONGUEUIL, QUEBEC  
J4N 1L7      Tel. : 450 641-3330

*Order* : 138814  
*Reference* : 41320  
*Ship* : PICK UP / PICK UP

*Customer* : 6323336

*Ship To*

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

Same

Tel.: 1 613 632-3336

<i>Item No.</i>	<i>Description</i>	<i>Qty</i>	<i>Qty. Delive1</i>	<i>B/O Qty</i>
SR214174	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N STAIN ROND 2.250" X 17-4 PH COND H900 1 X 12.33' R/L HT 9SJ0048-G60	12.33	12.33	Ø

LIVRE  
JP

Shipping : \_\_\_\_\_  
Package No : \_\_\_\_\_  
Merchandise Received : \_\_\_\_\_

Ref. : \_\_\_\_\_



# GLORIA MATERIAL TECHNOLOGY CORP.

## INSPECTION CERTIFICATE

Messrs:  
 Order No.:  
 File No.:  
 Grade: 17-4 ANN  
 Size: 2-1/4"  
 Heat-Lot No.: 9SJ0048-G60  
 Condition: HR-Solution Annealed-Ground

P.O. No.:  
 Date: 06/19/2018  
 Weight: 1216KG 2680.82LB  
 P'cs: 16

Chemical Composition (wt%)		C	Si	Mn	P	S	Ni	Cr
Min.								
Max.	0.07		1.00		0.040		3.00	15.00
Result	0.01		0.37		0.019		5.00	17.50
							4.73	15.31
Mo		Cu		Nb+Ta		Nb		
Min.			3.00			5C		
Max.	0.50		5.00		0.45		0.45	
Result	0.16		3.34		0.25		0.24	

### Mechanical Properties Spec.

Hardness	Grain Size	Delta-Ferrite	
		ASTM E112	AMS 2315
1/2R	T	L	
Spec. Min.			
Spec. Max.	363HBW	5%	
Result	301HBW	7	0.3%

### H900 Hardness (Ave)

	1/2R L
Spec. Min.	
Spec. Max.	40HRC
Result	47HRC

### 44HRC

Macro Etching	MACRO ETCH	MACRO ETCH
	ASTM E340	ASTM E340
Spec.	B	T
Result	OK	OK



Heat Treating  
 Material Testing Laboratory  
 Aerospace Quality

Mars Wang
Quality Manager
Mars Wang

Page 1 of 3

Our quality and environment management systems have been certified by AS9100, ISO9001 QMS, ISO14001 EMS, OHSAS18001 OH&S, and NADCAP.  
 We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with

the requirement of the above material specification. Inspection Certificate comply with EN 10204 3.1.

台灣台南市新營區新中路35號/NO.35, HSIN CHUNG RD., HSIN YING, TAINAN, TAIWAN

TEL: 886-6-6520031 / FAX: 886-6-6230877

<http://www.gmic.com.tw>



**GLORIA MATERIAL TECHNOLOGY CORP.**  
**INSPECTION CERTIFICATE**



Messrs:  
Order No.:  
File No.:  
Grade: 17-4 ANN  
Size: 2-1/4"  
Heat-Lot No.: 9SJ0048-G60  
Condition: HR-Solution Annealed-Ground

P.O. No.:  
Date: 06/19/2018  
Weight: 1216KG 2680.82LB  
P'cs: 16

**Tensile Test**

	Elongation(A)	Tensile Strength(Rm)	Yield Strength(0.2% Rp)	Reduction of Area(Z)
Unit	1/2R L (Ave) %	1/2R L (Ave) KSI	1/2R L (Ave) KSI	1/2R L (Ave) %
Min.	10	190	170	40
Max.				
Result	14	201	180	47

Non-Metallic Inclusions :AMS 2303  
Severity Frequency

Seat	0
Max.	0
Result	0

REDUCTION RATIO: Min 4.0:1

Specification:

1. ASTM A564XA564M-13.
2. ASME SA564(2013).
3. AMS 5643U.
4. ASTM A484/A484M-16.
5. AMS 2303F.
6. AMS 2315G.
7. EN 10204 3.1.
8. FIDELITY 17-4PH ROUND BAR REVISION 03/15/13.

Remark:

1. MANUFACTURING PROCESS: EAF+LHF+VOD, FORGED OR HOT ROLLED.
2. SOLUTION TREATMENT: 1900 +/- 25 DEGREE F FOR 30 MIN/INCH (MINIMUM OF 1/2 HOUR), FAST COOLING TO BELOW 90 DEGREE F.
3. MECHANICAL PROPERTIES TESTED AS PER H900 CONDITION.
4. MATERIAL IS FREE FROM KNOWN CONTACT WITH MERCURY AND RADIUM.



Heat Treatment  
Material Testing Laboratory  
Nondestructive Testing

Mars Wang
Quality Manager

Page 2 of 3

Our quality and environment management systems have been certified by AS9100, ISO9001 QMS, ISO14001 EMS, OHSAS18001 OH&S, and NADCAP. We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification. Inspection Certificate comply with EN 10204 3.1.

台灣台南市新營區新中路35號 / NO.35, HSIN CHUNG RD., HSIN YING, TAINAN, TAIWAN  
TEL: 886-6-6520031 / FAX: 886-6-6230877  
<http://www.gmtc.com.tw>

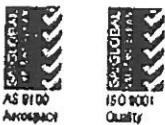


GLORIA MATERIAL TECHNOLOGY CORP.  
INSPECTION CERTIFICATE

Messrs:  
Order No.:  
File No.:  
Grade 17-4 ANN  
Size: 2-1/4"  
Heat-Lot No.: 9SJ0048-G60  
Condition: HR-Solution Annealed-Ground

P.O.No.:  
Date: 06/19/2018  
Weight: 1216KG 2680.82LB  
P'cs: 16

5. MATERIAL IS FREE FROM WELDS OR WELDING REPAIRS.
6. MATERIAL IS FREE FROM RESIDUAL RADIOACTIVITY.
7. NO PRODUCT THAT CONTAIN OR WERE MADE WITH ODC'S.
8. ULTRASONIC TEST IS ACCEPTABLE PER ASTM A388.
9. THE MATERIAL IS THE SAME AS AISI 630.
10. COUNTRY OF ORIGIN: TAIWAN.



Hot Tension  
Material Testing Laboratory  
Non-destructive Testing

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台灣台南市新營區新中路35號/NO.35, HSIN CHUNG RD., HSIN YING, TAINAN, TAIWAN  
TEL: 886-6-6520031/FAX: 886-6-6230877  
<http://www.gmitc.com.tw>

Mars Wang
Quality Manager

Page 3 of 3

# METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

## Certificat de Conformité

Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
331265	1

CLIENT / customer 780

METAUX SOLUTIONS

2625 BOUL. JACQUES-CARTIER EST

LONGUEUIL QC J4B 6G6

LIVRÉ À / shipped to:

METAUX SOLUTIONS

2625 BOUL. JACQUES-CARTIER EST

LONGUEUIL QC J4B 6G6

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
45855	N/A	17-4PH		

### SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

AGE HARDEN

CONDITION H 900

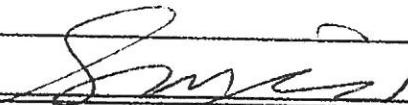
EXIGENCE / requirement	SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	40 - 47 HRC	1 46 - 47 HRC (907)

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
1	166	PIECES (1) BARRE 144.5" X 2.25"  1 NIL

2/11/18.

### COMMENTAIRES / comments

APPROUVÉ par / Approved by:




DATE: 2018-10-26

APPROUVE

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 PH / S17400 / TYPE 630 SS ROUND BAR  
GRAIN MUST BE ALONG LENGTH OF BAR  
MINIMUM YIELD STRENGTH PER TABLE  
MINIMUM ULTIMATE STRENGTH PER TABLE

**SPECIFICATION:** AMS 6643 OR ASTM A564  
**PART NUMBER:** M17-4-HHHHH-R XXXX  
 WHERE: HHHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)  
 X XXX = DIAMETER (IN INCHES)

MATERIAL CONDITION TABLE

CODE ( OMITTED )	CONDITION NONE SPECIFIED ( CONDITION A NOT ACCEPTABLE )	MIN YIELD TENSILE STRENGTH ( KSI )	MIN ULTIMATE TENSILE STRENGTH ( KSI )
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
	CONDITION A CONDA		
	SOLUTION TREATED		

**NOTES:** MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR  
TELEVISIONS, RADIOS, TELEPHONES, AND EQUIPMENT OPERATING IN COLD WEATHER CONDITIONS

MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR

APPLICATIONS WHERE STRESS CONCENTRATION IS POSSIBLE  
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND  
CONDITION D ALWAYS BE HEAT TREATED

**EXAMPLE**

REV.	DESCRIPTION	BY	DATE
	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA		
	DRAWING NO.	REV. C	
	M174-R	SHEET OF 1	
	TITLE	SCALE	
	CP 17-4 SS ROUND BAR	NIS	
	APPROVED	APPROVED	
	DE APPR.	DE APPR.	
	DATE	DATE	
	17.09.14	17.09.14	
	APPROVED	APPROVED	

RELEASED  
2017-10-31  
2017-778

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## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-4900-R2.250  
 DATE: 18/11/01

PO / BATCH NO.: P0041320/S124008

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12.24 ft  
 QUANTITY INSPECTED: 12.34 ft  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.250"  
 THICKNESS RECEIVED: 2.250"  
 SHEET SIZE ORDERED: -  
 SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	N	
CORRECT FINISH	Y	N	
CORROSION	Y	N	
CORRECT GRAIN DIRECTION	Y	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	ASTM A514
CORRECT THICKNESS	Y	N	
PHOTO REQUIRED	Y	N	
CORRECT REF # TO LINK CERT	Y	N	H: 95 J0048-660
CORRECT MATERIAL IDENTIFICATION	Y	N	
CORRECT M# ON THE MATERIAL	Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AJ</u>	SIGNED OFF BY: _____
DATE: <u>18/11/01</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in